	Learning outcomes	Additional guidance
	Learners should be able to demonstrate and apply their knowledge and understanding of:	
(a)	the radian as a measure of angle	*M4.7*
(b)	period and frequency of an object in circular motion	
(c)	angular velocity ω, $\omega = \frac{2\pi}{T}$ or $\omega = 2\pi f$	

5.2.2 Centripetal force

	Learning outcomes	Additional guidance
	Learners should be able to demonstrate and apply their knowledge and understanding of:	
(a)	a constant net force perpendicular to the velocity of an object causes it to travel in a circular path	HSW1, 2, 5, 9
(b)	constant speed in a circle; $v = \omega r$	
(c)	centripetal acceleration; $a = \frac{v^2}{r}$; $a = \omega^2 r$	*M2.4*
(d)	**(i)** centripetal force; $F = \frac{mv^2}{r}$; $F = m\omega^2 r$	
	(ii) techniques and procedures used to investigate circular motion using a whirling bung.	

(6) M - Develop weak areas by improve basic knowledge
(7) S - Identify questions that help improve basic knowledge.
(8) C - Answer questions on a range of topic areas studied in y9 and 10

Lesson 1: Centripetal force calculations

STARTER: Can you name all the topics you have studies this year

Extension: What topics are next year?

Sep 24-17:57